



a carbocyclic radical having not more than 29 C atoms or a heterocyclic radical having not more than 20 C atoms and not more than 9 heteroatoms, or

b)  $R_4$  and  $R_5$  together are a substituted or unsubstituted alkylene or alkenylene radical having in each case not more than 15 C atoms, in which 1-3 C atoms can be replaced by oxygen, sulfur or nitrogen, or a salt thereof.

2. A compound of the formula I according to claim 1, in which q is 1-5,

$R_1$  is halogen, lower alkyl, hydroxyl or lower alkanoyloxy; lower alkoxy which is unsubstituted or substituted by hydroxyl, lower alkoxy or carboxyl; a radical of the formula  $-O(-CH_2-CH_2-O)_t-R_6$ , in which t is 2-5 and  $R_6$  is hydrogen or lower alkyl; carboxyl, lower alkoxycarbonyl, piperazin-1-yl-carbonyl or carbamoyl; N-lower alkyl-carbamoyl which is unsubstituted in the lower alkyl moiety or substituted by hydroxyl or amino; N,N-di-lower alkyl-carbamoyl, cyano, nitro, amino, lower alkanoylamino, lower alkylamino, N,N-di-lower alkylamino, aminosulfonyl or trifluoromethyl, where, if more than one radical  $R_1$  is present in the molecule, these can be identical or different from one another,

$R_2$  is hydrogen, carbamoyl or N-lower alkyl-carbamoyl,

m and n are each 0 or 1, where m is 0 if n is 1 and m is 1 if n is 0,

$R_3$  is lower alkyl or phenyl which are unsubstituted or in each case substituted by hydroxyl, lower alkoxy, amino, lower alkylamino or N,N-di-lower alkylamino and

a)  $R_4$  is hydrogen, amino, phenylamino, lower alkylamino, hydroxyl, phenoxy or lower alkoxy; an acyl radical of the part formula  $Z-C(=W)-$ , in which W is oxygen, sulfur or imino and Z is hydrogen, hydrocarbyl  $R^\circ$ , hydrocarbyloxy  $R^\circ-O-$  or an amino group of the formula  $R_7(R_8)N-$ , in which  $R^\circ$  in each case is  $C_1-C_4$ alkyl, hydroxy- $C_2-C_{14}$ alkyl, cyano- $C_1-C_4$ alkyl, carboxy- $C_1-C_4$ alkyl,  $C_1-C_4$ alkoxycarbonyl- $C_1-C_4$ alkyl,  $C_3-C_7$ alkenyl or phenyl and  $R_7$  and  $R_8$  independently of one another are each hydrogen, lower alkyl,  $\omega$ -amino-lower alkyl, lower alkylsulfonyl or phenyl;

an aliphatic hydrocarbon radical having not more than 29 C atoms, which is substituted by halogen, amino, lower alkylamino,  $\omega$ -amino-lower alkylamino, lower alkanoylamino, benzoylamino, hydroxylamino, hydroxylimino, lower alkoxy-amino, phenyloxyamino, aminocyclohexyl-amino-, amino-phenyl-amino-, carbamoyl-amino, (N-lower alkyl-carbamoyl)-amino, (N-[ $\omega$ -amino-lower alkyl]-carbamoyl)-amino, (N-phenyl-carbamoyl)-amino, thio, lower

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alkylthio, thiocarbamoyl, thioureido, N-lower alkyl-thioureido, N-phenyl-thioureido, guanidino, N-lower alkyl-guanidino, carboxyl, lower alkoxycarbonyl, phenyloxycarbonyl, benzyloxycarbonyl, hydroxylaminocarbonyl, carbamoyl, amidino, cyano, hydroxyl, lower alkoxy, phenyloxy, aminocarbonyl-oxy, oxo, aminosulfonyl, lower alkylsulfonyl-amino, glycyllamino, alanyl-amino, phenylalanyl-amino, prolylamino, valylamino, leucylamino, isoleucylamino, seryl-amino, threonylamino, cysteinylamino, methionylamino, tyrosylamino, tryptophanyl-amino, arginylamino, histidylamino, lysylamino, glutamylamino, glutaminylamino, asparagylamino, asparaginyllamino or phenylglycylamino;

benzyl, 2-phenyl-ethyl, 3-aminomethyl-benzyl, (1-hydroxy-cyclohex-1-yl)-methyl, (2-amino-3,5,5-trimethyl-cyclopentyl)-methyl, 1-[N-(1-carboxy-2-phenyl-ethyl)-carbamoyl]-2-carbamoyl-eth-1-yl, 1-carbamoyl-1-phenyl-methyl, 1-carbamoyl-2-(4-hydroxy-phenyl)-eth-1-yl, 1-carbamoyl-2-phenyl-eth-1-yl, 2-amino-1,2-diphenyl-eth-1-yl, 2-benzyloxycarbonyl-1-carbamoyl-eth-1-yl, 3-benzyloxycarbonyl-1-carbamoyl-prop-1-yl, 1-adamantyl-2-amino-prop-1-yl, 1-adamantyl-1-amino-prop-2-yl,

(2-furyl)-methyl, (2-tetrahydrofuryl)-methyl, 2-pyrid-2-yl-ethyl, 2-piperidino-ethyl, 2-(morpholin-4-yl)-ethyl, 2-(3-indolyl)-ethyl, 2-(4-imidazolyl)-ethyl, 1-carbamoyl-2-( $\beta$ -indolyl)-eth-1-yl, 1-carbamoyl-2-imidazol-4-yl-eth-1-yl, 1-carbamoyl-2-indol-3-yl-eth-1-yl, 3-amino-methyl-oxetan-3-yl-methyl, 1-(acetoxymino)-1-(4-amino-2-oxa-1,3-diazol-5-yl)-methyl,

2-amino-cyclohex-1-yl, 3-amino-cyclohex-1-yl, 2-aminomethyl-3,3,5-trimethyl-cyclopent-1-yl, 3-amino-adamantan-1-yl, 2-carbamoyl-bicyclo[2.2.1]hept-5-en-3-yl, 2-carbamoyl-cyclohex-1-yl, 9-amino-spiro[4.4]non-1-yl,

5-amino-2-oxa-1,3-diazol-4-yl, 4-amino-thien-3-yl, 3-carbamoyl-5-(3-[2,4-dichloro-phenyl]-1-oxo-prop-2-en-1-yl)-1,2-thiazol-4-yl, 3-carbamoyl-5-(3-[4-trifluoro-phenyl]-1-oxo-prop-2-en-1-yl)-1,2-thiazol-4-yl, 4-amino-2-(4-carboxy-butyl)-tetrahydrothiophen-3-yl, 3-amino-2-(4-carboxy-butyl)-tetrahydrothiophen-4-yl, [1,2,5]oxadiazolo[3,4-b](6-amino-pyrazin-5-yl), 2,5'-diacetyl-3-amino-thieno[2,3-b]thiophen-4'-yl or 3-amino-2,5'-dipivaloyl-thieno[2,3-b]thiophen-4'-yl, and

R<sub>5</sub>, independently of R<sub>4</sub>, is as defined above for R<sub>4</sub>, with the exception of hydrogen, or

b) R<sub>4</sub> and R<sub>5</sub> together are 1,2-ethylene, propane-1,3-diyl, butane-1,4-diyl, pentane-1,5-diyl, 3-(3-amino-propionyl)-3-aza-pentane-1,5-diyl, 1-aminomethyl-butane-1,4-diyl, 1-hydroxymethyl-butane-1,4-diyl, 3-(2-amino-ethyl)-pentane-1,5-diyl, 3-aza-pentane-1,5-diyl or 3-(2-amino-ethyl)-3-aza-pentane-1,5-diyl,

or a salt thereof.

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3. A compound of the formula I according to claim <sup>2</sup> 1 or 2, in which q is 1-3 and

R<sub>4</sub> is hydrogen, or a salt thereof.

4. A compound of the formula I according to claim 1, in which q is 1,

R<sub>1</sub> is chlorine which is in the 3 position,

R<sub>2</sub> is hydrogen,

m is 0 and

n is 1,

R<sub>3</sub> is ethyl and

a) R<sub>4</sub> is hydrogen and

R<sub>5</sub> is amino, phenylamino, lower alkylamino, hydroxyl, phenoxy, lower alkoxy; an acyl radical of the part formula Z-C(=W)-, in which W is oxygen, sulfur or imino and Z is hydrogen, hydrocarbyl R<sup>o</sup>, hydrocarbyloxy R<sup>o</sup>-O- or an amino group of the formula R<sub>7</sub>(R<sub>8</sub>)N-, in which R<sup>o</sup> in each case is C<sub>1</sub>-C<sub>4</sub>alkyl, hydroxyl-C<sub>2</sub>-C<sub>14</sub>alkyl, cyano-C<sub>1</sub>-C<sub>4</sub>alkyl, carboxy-C<sub>1</sub>-C<sub>4</sub>alkyl, C<sub>1</sub>-C<sub>4</sub>alkoxycarbonyl-C<sub>1</sub>-C<sub>4</sub>alkyl, C<sub>3</sub>-C<sub>7</sub>alkenyl or phenyl and R<sub>7</sub> and R<sub>8</sub> independently of one another are each hydrogen, lower alkyl, ω-amino-lower alkyl, lower alkylsulfonyl or phenyl;

2-carbamoyl-1-carboxy-eth-1-yl, 3-amino-2-hydroxy-prop-1-yl, 3-amino-prop-1-yl, 3-amino-2,2-dimethyl-prop-1-yl, 3-amino-2-oxo-prop-1-yl, 3-amino-1-carboxy-prop-1-yl, 3-amino-3-carboxy-prop-1-yl, 1,1-dicarbamoyl-methyl, 2-carbamoyl-eth-1-yl, 3-amino-1,3-di-hydroxyl-imino-prop-1-yl, 2-carbamoyl-1-hydroxylimino-eth-1-yl, 1-hydroxylimino-2-thiocarbamoyl-eth-1-yl, 3-amino-3-hydroxylimino-1-thio-prop-1-yl, 3-amino-pent-1-yl, 1-amino-pent-3-yl, 1-amidino-1-carbamoyl-methyl, 4-amino-1,1,1,3,5,5,5-heptafluoro-pent-2-yl, 3-amino-1,3-dicarboxy-prop-1-yl, 2-carbamoyl-1-ethoxycarbonyl-eth-1-yl, 2-amino-1,2-dithio-eth-1-yl, 2-amino-1,2-dioxo-eth-1-yl, 2-amino-2-methyl-prop-1-yl, 1-amino-2-methyl-prop-2-yl, 2-amino-prop-1-yl, 1-amino-prop-2-yl, 2-amino-eth-1-yl, 2-amino-2-carboxy-eth-1-yl, 2-amino-1-carboxy-eth-1-yl, carbamoyl-methyl, 1-carbamoyl-3-methyl-but-1-yl, 2-amino-1,2-dicarboxy-eth-1-yl, 1-carbamoyl-3-methylthio-prop-1-yl, 1-carbamoyl-2-methyl-prop-1-yl, 1-carbamoyl-eth-1-yl, 1-carbamoyl-1-cyano-methyl, 1-carbamoyl-3-carboxy-3-fluoro-prop-1-yl, 1-carbamoyl-2-carboxy-eth-1-yl, 2-amino-4-carboxy-but-1-yl, 1-amino-4-carboxy-but-2-

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yl, 1-carbamoyl-4-guanidino-but-1-yl, 1-carbamoyl-5-amino-pent-1-yl, 1-carbamoyl-2-hydroxy-prop-1-yl, 1-carbamoyl-2-methyl-but-1-yl, 1-carbamoyl-2-hydroxy-eth-1-yl, 1,3-dicarbamoyl-prop-1-yl, 2-amino-but-1-yl, 1-amino-but-2-yl, 1-carbamoyl-pent-1-yl, 1-carbamoyl-but-1-yl; benzyl, 2-phenyl-ethyl, 3-aminomethyl-benzyl, (1-hydroxy-cyclohex-1-yl)-methyl, (2-amino-3,5,5-trimethyl-cyclopentyl)-methyl, 1-[N-(1-carboxy-2-phenyl-ethyl)-carbamoyl]-2-carbamoyl-eth-1-yl, 1-carbamoyl-1-phenyl-methyl, 1-carbamoyl-2-(4-hydroxy-phenyl)-eth-1-yl, 1-carbamoyl-2-phenyl-eth-1-yl, 2-amino-1,2-diphenyl-eth-1-yl, 2-benzyloxycarbonyl-1-carbamoyl-eth-1-yl, 3-benzyloxycarbonyl-1-carbamoyl-prop-1-yl, 1-adamantyl-2-amino-prop-1-yl, 1-adamantyl-1-amino-prop-2-yl, (2-furyl)-methyl, (2-tetrahydrofuryl)-methyl, 2-pyrid-2-yl-ethyl, 2-piperidino-ethyl, 2-(morpholin-4-yl)-ethyl, 2-(3-indolyl)-ethyl, 2-(4-imidazolyl)-ethyl, 1-carbamoyl-2-( $\beta$ -indolyl)-eth-1-yl, 1-carbamoyl-2-imidazol-4-yl-eth-1-yl, 1-carbamoyl-2-indol-3-yl-eth-1-yl, 3-aminomethyl-oxetan-3-yl-methyl, 1-(acetoxy-imino)-1-(4-amino-2-oxa-1,3-diazol-5-yl)-methyl, 2-amino-cyclohex-1-yl, 3-amino-cyclohex-1-yl, 2-aminomethyl-3,3,5-trimethyl-cyclopent-1-yl, 3-amino-adamantan-1-yl, 2-carbamoyl-bicyclo[2.2.1]hept-5-en-3-yl, 2-carbamoyl-cyclohex-1-yl, 9-amino-spiro-[4.4]non-1-yl, 5-amino-2-oxa-1,3-diazol-4-yl, 4-amino-thien-3-yl, 3-carbamoyl-5-(3-[2,4-dichloro-phenyl]-1-oxo-prop-2-en-1-yl)-1,2-thiazol-4-yl, 3-carbamoyl-5-(3-[4-trifluoro-phenyl]-1-oxo-prop-2-en-1-yl)-1,2-thiazol-4-yl, 4-amino-2-(4-carboxy-butyl)-tetrahydrothiophen-3-yl, 3-amino-2-(4-carboxy-butyl)-tetrahydrothiophen-4-yl, [1,2,5]oxadiazolo[3,4-b](6-amino-pyrazin-5-yl), 2,5'-diacetyl-3-amino-thieno[2,3-b]thiophen-4'-yl or 3-amino-2,5'-dipivaloyl-thieno[2,3-b]thiophen-4'-yl, or

b) R<sub>4</sub> and R<sub>5</sub> together are 1,2-ethylene, propane-1,3-diyl, butane-1,4-diyl, pentane-1,5-diyl, 3-(3-amino-propionyl)-3-aza-pentane-1,5-diyl, 1-aminomethyl-butane-1,4-diyl, 1-hydroxy-methyl-butane-1,4-diyl, 3-(2-amino-ethyl)-pentane-1,5-diyl, 3-aza-pentane-1,5-diyl or 3-(2-amino-ethyl)-3-aza-pentane-1,5-diyl, or a salt thereof.

5. A compound of the formula I according to claim 1, in which q is 1-3,

R<sub>1</sub> is halogen, lower alkyl, lower alkoxy, cyano, nitro, amino, trifluoroacetyl-amino or benzyloxycarbonylamino; benzoylamino which is unsubstituted or substituted in the phenyl moiety by chlorine; N-lower alkyl-carbamoyl, which is unsubstituted in the lower alkyl moiety

or substituted by hydroxyl; or trifluoromethyl, where, if more than one radical  $R_1$  is present in the molecule, these can be identical or different from one another,

$R_2$  is hydrogen,

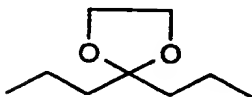
~~m and n are each 0 or 1, where m is 0 if n is 1 and m is 1 if n is 0,~~

**R<sub>3</sub> is lower alkyl which is unsubstituted or substituted by hydroxyl and**

a)  $R_4$  is hydrogen, ~~lower alkyl~~ or hydroxy-lower alkyl and

R<sub>5</sub> is cyclohexyl, lower alkyl-cyclohexyl, hydroxy-cyclohexyl, amino-cyclohexyl, amino-phenyl, hydroxymethyl-cyclopentyl, adamantyl or amino; or lower alkyl which is substituted by amino, lower alkanoylamino, lower alkylamino, ω-amino-lower alkylamino, hydroxyl, lower alkoxy, phenyl, amino-phenyl, aminomethyl-phenyl, 2-furyl, 2-tetrahydrofuryl, 2-pyridyl, piperidino, morpholin-4-yl, 3-indolyl, mercapto, 1-hydroxy-cyclohex-1-yl, cyano, carbamoyl or by 4-imidazolyl; or

b) R<sub>4</sub> and R<sub>5</sub> together are an alkylene or alkenylene radical which has not more than 10 C atoms in the alkylene or alkenylene moiety and is unsubstituted or substituted by cyano, hydroxyl, cyclohexylaminocarbonyl, tosylaminocarbonyl, 1-hydroxy-1-(methoxyphenylamino)-methyl, lower alkylamino-carbonyl, lower alkylamino-thiocarbonyl, carbamoyl, lower alkylamino or amino, and in which 1 C atom can be replaced by nitrogen, or a radical of the formula



in which the two terminal bonds of the alkylene chain are free valencies, or a pharmaceutically acceptable salt thereof.

6. A compound of the formula I according to claim 1, in which q is 1-3,

~~R<sub>1</sub> is halogen, lower alkyl or lower alkoxy; N-lower alkyl-carbamoyl which is substituted in the lower alkyl moiety by hydroxyl; or trifluoromethyl, where, if more than one radical R<sub>1</sub> is present in the molecule, these can be identical or different from one another,~~

**R<sub>2</sub> is hydrogen,**

~~m and n are each 0 or 1, where m is 0 if n is 1 and m is 1 if n is 0,~~

**R<sub>3</sub> is lower alkyl which is unsubstituted or substituted by hydroxyl and**

a) R<sub>4</sub> is hydrogen or hydroxy-lower alkyl and

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R<sub>5</sub> is 2-amino-cyclohexyl; or lower alkyl which is substituted by amino, lower alkylamino, ω-amino-lower alkylamino, hydroxyl, lower alkoxy, phenyl, 3-aminomethyl-phenyl, 2-furyl, 2-tetrahydrofuryl, 2-pyridyl, piperidino, morpholin-4-yl, 3-indolyl, mercapto, 1-hydroxy-cyclohex-1-yl or by 4-imidazolyl; or

b) R<sub>4</sub> and R<sub>5</sub> together are an alkylene radical which has not more than 10 C atoms and is unsubstituted or substituted by hydroxyl or amino, and in which 1 C atom can be replaced by nitrogen, or a pharmaceutically acceptable salt thereof.

7. A compound of the formula I according to claim 1 mentioned in the Examples or a pharmaceutically acceptable salt thereof.

Claim 1  
8. A compound of the formula I according to ~~any one of claims 1-7~~ or a pharmaceutically acceptable salt of such a compound for use in a method for therapeutic treatment of the human or animal body.

Claim 1  
9. A pharmaceutical composition comprising a compound of the formula I according to ~~any one of claims 1-7~~ or a pharmaceutically acceptable salt of such a compound together with a pharmaceutical carrier.

tumors  
antitumorally  
Claim 1  
10. A pharmaceutical composition for treatment of ~~tumours~~ in warm-blooded animals, including humans, comprising an ~~antitumorally~~ effective dose of a compound of the formula I according to ~~any one of claims 1-7~~ or a pharmaceutically acceptable salt of such a compound together with a pharmaceutical carrier.

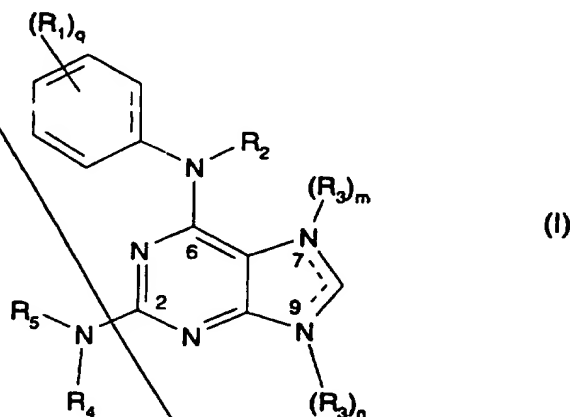
Claim 1  
11. The use of a compound of the formula I according to ~~any one of claims 1-7~~ or of a pharmaceutically acceptable salt of such a compound for the preparation of a pharmaceutical composition for use for chemotherapy of ~~tumours~~ <sup>tumors</sup>.

Claim 1  
12. The use of a compound of the formula I according to ~~any one of claims 1-7~~ or of a pharmaceutically acceptable salt of such a compound for chemotherapy of ~~tumours~~ <sup>tumors</sup>.

antitumorally  
Claim 1  
13. A method for treatment of warm-blooded animals, including humans, in which an ~~antitumorally~~ effective dose of a compound of the formula I according to ~~any one of claims~~ <sup>Claim 1</sup>.

*A*  
*B*  
1  
~~17~~ or of a pharmaceutically acceptable salt of such a compound is administered to such a warm-blooded animal suffering from a ~~tumour~~ *tumor* disease.

*and C4*  
14. A process for the preparation of a 2-amino-6-anilino-purine derivative of the formula I



in which q is 1-5,

*B*  
R<sub>1</sub> is halogen, lower alkyl, hydroxyl or lower alkanoyloxy; lower alkoxy which is unsubstituted or substituted by hydroxyl, lower alkoxy or carboxyl; a radical of the formula -O(-CH<sub>2</sub>-CH<sub>2</sub>-O)<sub>t</sub>-R<sub>6</sub>, in which t is 2-5 and R<sub>6</sub> is hydrogen or lower alkyl; carboxyl, lower alkoxycarbonyl, piperazin-1-yl-carbonyl or carbamoyl; N-lower alkyl-carbamoyl which is unsubstituted in the lower alkyl moiety or substituted by hydroxyl or amino; N,N-di-lower alkyl-carbamoyl, cyano, nitro, amino, lower alkanoylamino, lower alkylamino, N,N-di-lower alkylamino, aminosulfonyl or trifluoromethyl, where, if several radicals R<sub>1</sub> are present in the molecule, these can be identical or different,

R<sub>2</sub> is hydrogen, carbamoyl or N-lower alkyl-carbamoyl,

m and n are each 0 or 1, where m is 0 if n is 1 and m is 1 if n is 0,

R<sub>3</sub> is lower alkyl or phenyl which are unsubstituted or in each case substituted by hydroxyl, lower alkoxy, amino, lower alkylamino or N,N-di-lower alkylamino and

a) R<sub>4</sub> is hydrogen, amino, phenylamino, lower alkylamino, hydroxyl, phenoxy, lower alkoxy, acyl having 1-30 C atoms, a substituted aliphatic hydrocarbon radical having not more than 29 C atoms, a carbocyclic radical having not more than 29 C atoms or a heterocyclic radical having not more than 20 C atoms and not more than 9 heteroatoms and



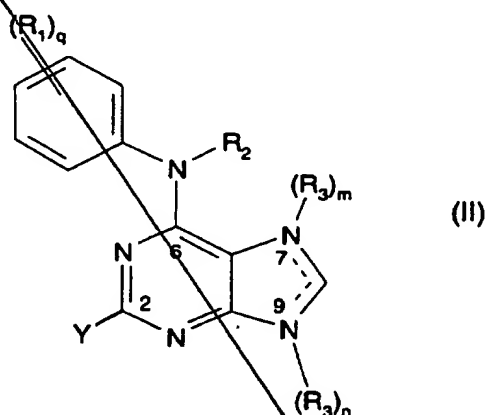
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$R_5$  is amino, phenylamino, lower alkylamino, hydroxyl, phenoxy, lower alkoxy, acyl having 2-30 C atoms, a substituted aliphatic hydrocarbon radical having not more than 29 C atoms, a carbocyclic radical having not more than 29 C atoms or a heterocyclic radical having not more than 20 C atoms and not more than 9 heteroatoms, or

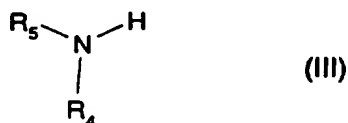
b)  $R_4$  and  $R_5$  together are a substituted or unsubstituted alkylene or alkenylene radical having in each case not more than 15 C atoms, in which 1-3 C atoms can be replaced by oxygen, sulfur or nitrogen,

or a salt thereof, which comprises

a) reacting a compound of the formula II



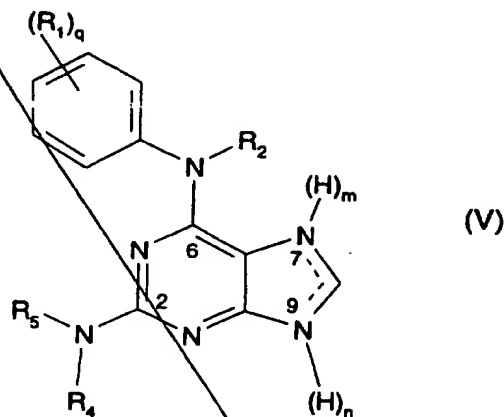
in which Y is a suitable leaving group and the other substituents and symbols are as defined above for compounds of the formula I, free functional groups present therein, if necessary, being protected by easily detachable protective groups, with an amine of the formula III



in which the substituents are as defined above for compounds of the formula I, free functional groups present therein, if necessary, being protected by easily detachable protective groups or, in accordance with the principle of latent functionality, being in a form which can be converted into the functional groups, and detaching the protective groups

present and, if necessary, converting functional groups into the final form according to formula I, or

b) reacting a compound of the formula V



in which the substituents and symbols are as defined above for compounds of the formula I, free functional groups present therein, if necessary, being protected by easily detachable protective groups,

with a compound of the formula VI

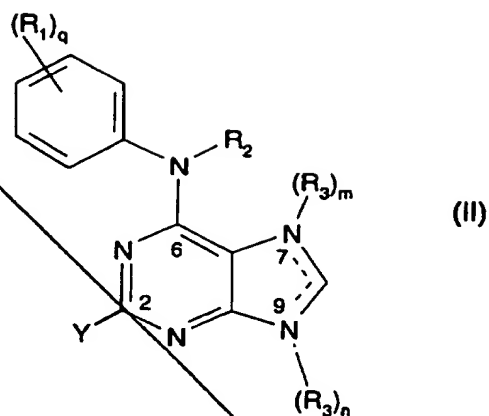


in which Y is a suitable leaving group and

$R_3$  is as defined above for compounds of the formula I, free functional groups present in  $R_3$ , if necessary, being protected by easily detachable protective groups, and detaching the protective groups present,

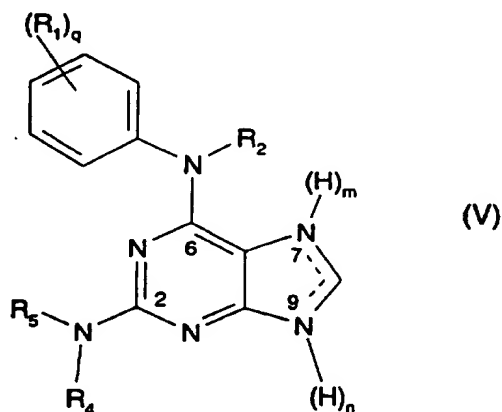
and, after carrying out process a) or b), if necessary for the preparation of a salt, converting a resulting free compound of the formula I into a salt or, if necessary for the preparation of a free compound, converting a resulting salt of a compound of the formula I into the free compound.

15. A compound of the formula II



in which Y is a suitable leaving group and the other substituents and symbols are as defined in claim 1 for compounds of the formula I, it being possible for free functional groups present therein to be protected by easily detachable protective groups, or a salt thereof.

16. A compound of the formula V



in which the substituents and symbols are as defined in claim 1 for compounds of the formula I, it being possible for free functional groups present therein to be protected by easily detachable protective groups.

Add  
C5

ins  
C6